THE RELEVANCE OF CHOLELITHIASIS

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Annotation: *Gallstone disease (GI) is a disease of the hepatobiliary system caused by a violation of cholesterol and/or bilirubin metabolism, characterized by the formation of gallstones in the gallbladder, hepatic bile ducts or in the common bile duct. More often, gallstones form in the gallbladder.*

Keywords: *gallstone disease, cholesterol, gallbladder, concretion, cholecystitis, catarrhal, phlegmonous, empyema, cholecystectomy, cholangiography.*

Cholelithiasis (GI) is one of the most important medical and social problems of modern society. Cholelithiasis is accompanied by a decrease in the quality of life of patients, the development of various complications and an increasing frequency of surgical interventions, which leads to a significant financial burden on the global healthcare system. In this regard, there is a need to study new etiopathogenetic and prognostic factors that will make it possible to reduce the incidence of GI and / or predict the effectiveness of drug litolysis. The data obtained will complement the etiopathogenetic mechanisms of the occurrence of concretions in the gallbladder, including the preclinical stage, and prevent not only the progression of the disease, but also the development of various complications, including pancreatitis, cholecystitis, the addition of secondary infections and oncological diseases of the digestive system.

Cholelithiasis (GI) affects about 10% of the population, while in recent years it has acquired a steady upward trend. There are age and gender peculiarities in the structure of risk factors for gallstone formation. In women, these are multiple pregnancies and childbirth — the relative risk (RR) is 4.62, the body mass index is more than 26 — RR 4.57, non-compliance with the principles of rational nutrition — RR 3.94. In men, hypodynamia is important — OR 4.25, an increase in the atherogenicity coefficient — OR 3.87 and heredity burdened by the gastrointestinal tract — OR 2.05. Clinical manifestations of GI in young people are attacks of biliary colic, often of a protracted nature with manifestations of jaundice. For elderly and senile people, the latent course of the gastrointestinal tract is more characteristic, manifested by dull pains. Such a course acquires the GI in the stone stage, ending, as a rule, with cholecystectomy.

Successful prevention is possible only in the early (pre-stone) stage of GI. Ultrasound (detection of biliary sludge) and the study of the physico-chemical properties of cystic and hepatic bile are used in the diagnosis of the early stage of GI. The review provides up-to-date data on the possibility of conservative treatment and prevention of GI.

In the last decade, more and more data are accumulating on new mechanisms of etiopathogenesis of GI. Thus, numerous studies indicate that hypercholesterolemia (HC) and

changes in the production of hepatic cholesterol are important factors in the formation of bile concretions. Previous studies have demonstrated the effect of metabolic disorders on the development of GI and its further progression. Also, an association between infection with Helicobacter pylori (H.pylori) and a history of GI has been confirmed. At the same time, more and more data indicate the significant role of cholesterol at various stages of the development of bacterial infection. On the other hand, stone formation is affected by a decrease in the motor evacuation function of the intestine and gallbladder, which may be associated with a decrease in motilin production.

Etiology and Pathogenesis

Infectious theory: it is believed that the penetration of infection into the gallbladder, especially weakly virulent, leads to the fact that the epithelium of the gallbladder mucosa is exfoliated. Lumps of this epithelium against the background of stagnation of bile serve as a nucleus around which lime and cholesterol settle from the bile. Infection in the gallbladder can enter from the 12th intestine through ducts, lymphogenic and hematogenic pathways. Most often it is E. coli, staphylococci, streptococcus, etc. The theory of bile stagnation as a cause of stone formation was put forward by Ashof.

In contrast to the above theories, according to which the causes of stone formation are local conditions – stagnation of bile, local inflammatory process, etc. according to the theory developed by Shoffar, the formation of gallstones in the gallbladder is a consequence of a disease of the whole organism – metabolic disorders, in particular cholesterol, when the amount of cholesterol in the blood increases significantly. At the same time, other types of metabolism often suffer. Confirmation of this theory can be seen in the fact that during periods when the level of cholesterol in the blood normally rises (pregnancy, after childbirth, menstrual period), as well as with an abundant diet of foods containing a lot of cholesterol (yolks, fats, mutton, brains, liver, cauliflower, carrots, etc.) appear for the first time or GI attacks become more frequent. At the same time, an increase in cholesterol is observed not only in the blood, but also in bile. Hereditary predisposition to diseases of cholesterol and in particular GI is emphasized by many authors. We are talking about a predisposition to metabolic disorders, in this case to cholesterol metabolism.

Causes of cholelithiasis

The primary role in the development of the disease is played by burdened heredity. In addition, there are a number of factors that can become both the main cause of gallstone disease and a prerequisite in combination with other circumstances. These include:

- age: the highest peak of morbidity is recorded within 40-69 years;

- female sex – it is believed that estrogens are able to thicken bile, and thereby increase the likelihood of concretions, but after menopause, the chance of developing pathology in men and women is almost the same;

- Pregnancy, since hormonal changes and compression of the bile ducts by the growing uterus increase the risks of bile thickening and the formation of concretions (sometimes after childbirth they can self-lyze);

- menopausal hormone therapy in women, since externally administered estrogens affect the physico-chemical properties of bile;

- obesity and elevated triglycerides in the blood;
- diabetes mellitus and metabolic syndrome;
- cirrhosis of the liver;
- rapid weight loss, including due to the use of bariatric surgery methods;
- sedentary lifestyle.

It is worth noting that housing and communal services have significantly "rejuvenated" recently. Often, signs of cholelithiasis are detected even in children and adolescents, which scientists associate with the epidemic of obesity, a decrease in the quality of physical development of schoolchildren and poor nutrition

ETIOPATHOGENETIC CLASSIFICATION:

1. Calculous cholecystitis.
2. Non-calculous cholecystitis:

- Primarily bacterial
- Vascular
- Allergic
- Enzymatic
- Parasitic
- Post-traumatic

CLASSIFICATION OF ACUTE CHOLECYSTITIS BY THE NATURE OF INFLAMMATION:

- Catarrhal – inflammation is limited to the mucosa and submucosal fragments
- Phlegmonous – purulent inflammation with infiltration of all layers of the gallbladder. It is possible to express the mucous membrane with subsequent exudation of inflammatory fluid into the amniotic space.
- Gangrenous – partial or total necrosis of the gallbladder wall. When the bladder wall is perforated, bile flows into the abdominal cavity (gangrenous-perforated cholecystitis).

ACUTE CHOLECYSTITIS CLINIC

- Pain (constant with cramping increases)
- Nausea, vomiting
- Symptoms of endotoxicosis: fever, tachycardia, leukocytosis, water-electrolyte disorders
- Mechanical jaundice (with obstructed choledochus)

SYMPTOMS OF ACUTE CHOLECYSTITIS:

Kera's symptom – the pain of palpation of the right hypochondrium increases on inspiration.

Murphy's symptom is involuntary respiratory retention by the patient during palpation of the abdomen in the area of the projection of the gallbladder.

Ortner's symptom is soreness when beating the edge of the palm along the edge of the right costal arch.

The symptom of Mussy-Georgievsky is pain when pressing on the neck muscles (between the legs of the right sternocleidomastoid muscle).

Ortner's symptom – when pressing on the anterior abdominal wall and then abruptly releasing, intense pain occurs.

GENERAL PRINCIPLES OF LABORATORY AND INSTRUMENTAL DIAGNOSTICS

Clinical analysis of blood and urine. They are necessary to assess the severity of inflammatory changes from the extrahepatic biliary tract and assess the functional state of the urinary system.

Biochemical blood testing. It is necessary to assess the functional state of the liver and the characteristics of lipid metabolism. The biochemical analysis determines the level of bilirubin (direct and indirect fractions), alanine and aspartate aminotransferase, alkaline phosphatase, cholesterol and triglycerides. Normal indicators of bilirubin levels and the activity of the main liver enzymes indicate the absence of an active inflammatory process in hepatocytes. The detected high level of plasma cholesterol and triglycerides indicates the connection of the disease with a violation of lipid metabolism. This fact should be given special importance, since patients with hypercholesterolemia, in addition to the proposed basic treatment, it is necessary to conduct hypocholesterolemic therapy aimed at preventing the recurrence of stone formation.

Ultrasound. It is the main method of diagnosing GI. Endoscopic retrograde cholangiopancreatography. It is the "gold standard", which allows not only to assess the condition of the intra- and extrahepatic biliary tract, pancreatic ductal system, etc., but also to carry out a number of therapeutic measures aimed at eliminating the causes of biliary hypertension in patients with GI.

Computed tomography. Percutaneous transhepatic cholangiography. An invasive diagnostic method that is used in patients with jaundice with both diagnostic and therapeutic (decompression of the biliary system) targets.

Prevention

In recent years, the number of operations for GI has increased significantly, and therefore cholecystectomy ranks second after appendectomy. More than 500 thousand cholecystectomies are performed annually in the world. The increase in surgical interventions for GI is largely due to the latent course of the disease and the diagnosis of GI already at late stages, when conservative methods of treatment are ineffective or their use is impossible.

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